



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue, Suite 900
Seattle, Washington 98101-3140

June 30, 2008

Reply To
Attn Of: AWT - 107

Chuck Sartain
Reclaim Technologies, Inc.
127 Bellevue Way SE, Suite 100,
Bellevue, WA 98004

Re: Applicability of 40 CFR Part 63, Subpart M, to Tire Sublimation

Dear Mr. Sartain:

This is in response to a request from Reclaim Technologies, Inc. (Reclaim) dated June 6, 2008, to the Environmental Protection Agency (EPA) regarding Reclaim's recently constructed tire reclamation facility at the Port of Morrow, near Boardman, Oregon (Reclaim's facility). Reclaim is requesting a determination that Reclaim's facility is not subject to 40 CFR Part 63, Subpart M, National Emission Standards for Hazardous Air Pollutants (NESHAPS) for Area Sources: Carbon Black Production (Subpart M). Based on the information provided by Reclaim, EPA has determined that Subpart M is not applicable to Reclaim's facility. Region 10 consulted with EPA's Office of Enforcement and Compliance Assurance (OECA) and EPA's Office of Air Quality Planning and Standards (OAQPS) in making this determination.

Background

Reclaim's tire reclamation facility will use a sublimation process in which shredded tires are heated in an enclosed, oxygen starved environment in order to recover carbon black, oil and steel from the tires. Reclaim believes that its process is distinct from the processes covered by Subpart M for carbon black production in numerous respects, and therefore is not covered by Subpart M.

NESHAP Applicability

EPA promulgated Subpart M on July 19, 2007, (see 72 FR 38864). This rule extended the coverage to area sources¹ of carbon black production the same requirements that already applied to major sources under 40 CFR Part 63, Subpart YY. See 40 CFR 63.1103(f).

¹ Area Sources are stationary sources that emit some amount of hazardous air pollutants (HAP), but the amounts of HAP emitted are below the major source thresholds of 10 tons per year of any one HAP or 25 tons per year of all HAP combined.

“Carbon black production” is defined in Subpart YY at 40 CFR 63.1103(f)(2) as “the production of carbon black by either the furnace, thermal, acetylene decomposition, or lampblack processes.” A “carbon black production unit” is defined as “the equipment assembled and connected by hard-piping or duct work to process raw materials to manufacture, store, and transport a carbon black product. . .” Subpart MMMMMM specifically incorporates these definitions by reference, see 40 CFR 63.11405, and the preamble to the proposal for Subpart MMMMMM, published in the Federal Register on April 4, 2007, describes in more detail each of the three processes covered by the definition of “carbon black production.” See 72 Fed. Reg. 16642.

Response to Request

Reklaim’s facility will use a sublimation process in which shredded tires are heated in an enclosed vessel to approximately 425 to 480°C in the absence of oxygen. The enclosed vessel is heated by electric heating elements. No supplemental fuels are used in this process. During the process, the polymers in the tire break, freeing the carbon black that is contained in the composition of the tires. The carbon black is recovered as a product. The heating of the tires also produces gases consisting of methane, hydrogen, carbon monoxide, several light hydrocarbons, and trace Hazardous Air Pollutants (HAP). Diesel oil is condensed from the process gases and recovered as a product.

A review of the definition of “carbon black production” in Subpart MMMMMM as well as preambles to the proposed and final Subpart YY and MMMMMM rules shows that Reklaim’s process differs materially from the processes that meet the definition of “carbon black production” and are thus subject to Subpart MMMMMM. First, the purpose of the Reklaim process is to recover carbon black, gases and aromatic oils from a waste product – used tires. The carbon black production processes identified in Subpart MMMMMM use a raw material to produce just one finished product: carbon black. Second, the feedstocks for the processes differ. Reklaim’s process begins with a solid (used tires), which is then largely converted to gaseous form, with carbon black released, by the combination of electric heat and a very low oxygen atmosphere. The gases consist of aromatic oils and non-condensable gases that are either product or sent to the flare. In contrast, the feedstocks for the processes included in the definition of “carbon black production” include aromatic oils (atomized and injected into the furnace) in the furnace black process; natural gas in the thermal black process; and acetylene in the acetylene black process. Third, the emission point of concern in “carbon black production”--tailgas from a main filter unit (see 72 Fed. Reg. at 16643)—is not present in Reklaim’s process. The process developed by Reklaim discharges heated gases and vaporized oils as the solids (shredded tires) are converted to gas, but there is no separation of “tailgas” from “carbon black” in a “main unit filter.” Fourth, the “carbon black production” processes regulated by Subpart MMMMMM operate at much higher temperatures of 1320 –1540°C--than Reklaim’s sublimation process (425 to 480°C). See US EPA AP-42, pp 6.1.1-6.1.10. Finally, the rulemaking record for Subparts YY and MMMMMM show that the HAP of concern in connection with promulgating Section 112 standards for “carbon black production” facilities includes carbon disulfide, carbonyl sulfide, and hydrogen cyanide.” See 5 Fed. Reg. 76408, 76420 (December 6, 2000). Information provided by Reklaim shows that an analysis of

the non-condensable gases generated under Reclaim's operating temperatures does not detect the presence of carbon disulfide, carbonyl sulfide, and hydrogen cyanide.

Conclusion

Based on the information provided by Reclaim regarding the process at Reclaim's facility, as well as the rule language and rulemaking record for Subpart M M M M M M and Subpart Y Y, on which Subpart M M M M M M was based, EPA has concluded that the process used at Reclaim's facility is materially different from the "carbon black production" process that is subject to Subpart M M M M M M and does not fall within the definition of "carbon black production." EPA therefore concludes that Reclaim's new tire reclamation facility is not subject to Subpart M M M M M M. If you have any further questions or concerns, please contact Heather Valdez of the Region 10 Office of Air, Waste and Toxics at (206) 553-6220.

Sincerely,

A handwritten signature in black ink, appearing to read "Nancy Helm", is positioned above the typed name.

Nancy Helm, Manager
Federal and Delegated Air Programs Unit
Office of Air, Waste, and Toxics

cc: Doug Welch, ODEQ